REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Upon entry of this Amendment, claims 1-15 are pending in the application. In response to the October 7, 2004 Office Action, Applicant respectfully submits that the pending claims define patentable subject matter.

As a preliminary matter, Applicant thanks the Examiner for allowing claims 11-14.

By this Amendment, Applicant has amended dependent claims 8 and 10 to correct clerical errors. Although the October 7, 2004 has been made final, the Examiner is requested to enter these claim amendments since they are merely editorial in nature and do not raise new issues which would require further consideration and/or search.

Claims 1-10 and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Yan (U.S. Patent No. 5,657,220) in view of Gu et al. (U.S. Patent No. 5,907,223; hereafter "Gu") and Oldenkamp (U.S. Patent No. 6,151,234). Applicant respectfully traverses the prior art rejection.

With regard to independent claims 1 and 5, the Examiner asserts that Yan discloses all of the features of the claimed invention except for "periodically reversing the polarity of a plurality of successive pulses of the fourth pulse train at twice the frequency of the AC output voltage to be generated," which the Examiner asserts is disclosed by the combination of Gu and Oldenkamp. The Examiner further asserts that:

> it would have been obvious ... to modify Yan with Gu et al and Oldenkamp to provide a highly efficient output inverter that periodically reverses the polarity of a plurality of successive pulses, as taught by Gu et al, at twice the frequency of the AC output voltage to be generated, as taught by Oldenkamp, in order to

> provide a low frequency AC output voltage with switching losses of the inverter being negligible, thereby increasing the efficiency of the power supply by reducing the switching losses.

However, Applicant respectfully submits that even if one of ordinary skill in the art would have been motivated to modify Yan's power inverter based on the teachings of Gu and Oldenkamp in the manner alleged by the Examiner (which Applicant submits is incorrect), the resulting device would not include all of the features of the claimed invention. In particular, if the power inverter of Yan were modified as proposed by the Examiner, the resulting device would not "pulse-width modulat[e] the DC input voltage … to produce a first pulse train and a second pulse train … [which] are modulated to correspond to one half-cycle of the AC output voltage to be generated", and/or "rectif[y] the pulses of the third pulse train output from the secondary winding of the transformer to generate a fourth pulse train having pulses of one polarity and corresponding to successive half-cycles of the AC output voltage to be generated", as recited in claim 1 and similarly recited in claim 5.

As shown in Fig. 2A, Yan discloses a power conversion circuit 14 which includes a power transformer 30 having two primary windings 44 and 46 and a secondary winding 48. Power switches 26 and 28 alternately couple input voltage V_{IN} across the two primary windings 44 and 46 in the form of voltage pulses, generating corresponding voltage pulses across the secondary winding 48. The pulses output by the secondary winding 48 are rectified by rectifiers 32, 34, 36, and 38 and then filtered by an output capacitor 40 and a transformer 90 to produce a voltage V_{OUT} having a trapezoidal waveform (see timing diagram 200 in Fig. 3A). The voltage

V_{OUT} is then periodically inverted during alternate voltage cycles (i.e., alternate single pulses are inverted) by a bridge inverter 20 to produce an AC trapezoidal voltage V_{INV}.

If Yan were modified so that control switches 96, 98, 100 and 102 of the bridge inverter 20 (which the Examiner asserts corresponds to the claimed controlled polarity reversal switch) are controlled to periodically reverse the polarity of a plurality of successive pulses of the pulse train V_{OUT} (which the Examiner asserts corresponds to the claimed fourth pulse train) at twice the frequency of the AC output voltage V_{INV} to be generated, then the pulses of the first and second pulse trains applied to the two primary windings 44 and 46 of the transformer 30 would not be modulated to correspond to one half-cycle of the AC output voltage V_{INV} to be generated, and/or the pulses of the fourth pulse train V_{OUT} would not correspond to successive half-cycles of the AC output voltage V_{INV} to be generated. That is, if the polarity of a plurality of successive pulses of the pulse train V_{OUT} is reversed, the frequency of the AC output voltage V_{INV} decreases by a factor corresponding to the number of successive pulses which are reversed (e.g., if the polarity of two successive pulse is reversed, the frequency of V_{INV} is reduced by a factor of two). As a result, the claimed relation between the AC output voltage V_{INV} and the pulses of the first and second pulse trains applied to the primary windings and/or the fourth pulse train V_{OUT} would no longer exist.

Accordingly, Applicant respectfully submits that independent claims 1 and 5, as well as dependent claims 2-4, 6-10 and 15, should be allowable because the combined references do not teach or suggest all of the features of the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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